B. TRAFFIC MODEL DEVELOPMENT

A traffic model for the Whiteville/Brunswick Urban Area was developed to produce an efficient thoroughfare plan of the study area. The sketch plan method is used to analyze the traffic. Development of a traffic model consists of: defining the study area, collecting traffic counts and socioeconomic data, using the trip generation characteristics, and calibrating the traffic model so that it duplicates traffic patterns of the study area. Details of this process are discussed later in this chapter. Once the base year model is calibrated, traffic counts and socioeconomic data are projected to the design year, 2020. The model may then be used to evaluate various street system problems.

The Planning Area

The planning area for Whiteville/Brunswick consists of the city limits, extra-territorial jurisdiction, and some additional outlaying area (See Figure A1). The planning area was divided into 10 zones for data collection and aggregation. These zones reflect similar land use throughout the planning area. The data for the rural dwelling units (those houses outside the city limits but inside the planning area) were taken from the 1987 USGS quad maps. The data for the urban dwelling units (inside the city limits) was based on the number of persons per dwelling unit and the urban population. The census data was used to determine county employment for 1994 while other employment figures were estimated based on past trends. The projections of socioeconomic data to the future year was done based on past trends from previous census data and projections by the Office Budget and State Planning and the local staff.

Data Requirements

Two additional types of data are required to adequately analyze the planning area. First, traffic counts on major and minor thoroughfares are collected. These traffic counts show a snapshot of traffic conditions as they are today in the planning area. (See Figure A2.) Second, socioeconomic data (population, housing counts from quad maps and employment estimates) are necessary in order to generate traffic for future projections. (See Trip Generation Worksheet.)

Traffic Counts - The street system must be compared against existing conditions in the planning area. For this comparison, traffic counts must be taken at various locations around the planning area. The counts for the Whiteville/Brunswick urban area were collected during 1993 & 1994. (See Figure A1.)

Also, traffic volumes on all routes crossing the planning area boundary were determined using the nearest ADT count. These external traffic counts show how much traffic is entering and exiting the planning area.

Socioeconomic Data - The required data consists of population figures, house counts from quad maps and employment estimates. The population and housing counts are used